

CLAIMS

I claim:

1. A restraint apparatus for restraining a person for an extended period
5 of time, and for securing the person to at least one seat, comprising:

a first cuff module to be applied to a first wrist of the person, said first
cuff module having a first cuff body positioned around the first wrist and a first
flexible member connected to said first cuff body terminating in a first releasable
connector;

10 a second cuff module to be applied to a second wrist of the person,
said second cuff module having a second cuff body positioned around the second
wrist and a second flexible member connected to said second cuff body and
terminating in a second releasable connector; and

first releasable attachment means for releasably securing said first
15 and said second releasable connectors to the at least one seat, such that the
person is thereby restrained and secured to the seat.

2. The restraint apparatus of claim 1, wherein said first releasable
attachment means comprises:

20 a third releasable connector attached to a first area of the at least one
seat and configured to releasably connect to said first releasable connector; and

a fourth releasable connector attached to a second area of the at
least one seat and configured to releasably connect to said second releasable
connector.

3. The restraint apparatus of claim 3, wherein said first and said second releasable connectors are one of a male seat-belt type connector or a female seat-belt type connector, and wherein said third and said fourth releasable connectors are the other of said male seat-belt type connector or said female seat-belt type connector.

4. The restraint apparatus of claim 1, wherein said first releasable attachment means comprises:

a first interconnect having a first flexible body of a first length, a first end and a second end and having a fifth releasable connector attached to said first end and configured to releasably connect to said first releasable connector; and a sixth releasable connector attached to said second end and configured to releasably connect to said second releasable connector, and wherein said first interconnect is positioned behind a seat of the at least one seat on which the person is disposed, to thereby secure the person's wrists to the seat once said first and second releasable connectors are releasably connected to said respective fifth and sixth releasable connectors.

5. The restraint apparatus of claim 4, wherein said first and said second releasable connectors are one of a male seat-belt type connector or a female seat-belt type connector, and wherein said fifth and said sixth releasable connectors are the other of said male seat-belt type connector or said female seat-belt type connector.

6. The restraint apparatus of claim 4, wherein said first interconnect further comprises a first tensioning device that controls said first length of said first interconnect, such that when said interconnect is placed behind the seat and said first and said second releasable connectors are releasably connected to said
5 respective fifth and sixth releasable connectors, said first tensioning device is engaged to further secure the person's first and second wrists to the seat.

7. The restraint apparatus of claim 1, further comprising:
a second interconnect comprising first releasable connection means
10 for connecting to said first and said second cuff modules, wherein said second interconnect is sized and configured to wrap around the person's midsection such that said first and said second cuff modules are secured to respective sides of the person's midsection.

15 8. The restraint apparatus of claim 1, further comprising:
a third cuff module to be applied to a first ankle of the person;
a fourth cuff module to be applied to a second ankle of the person;
a third cuff interconnect having a second flat flexible elongated body
of a second length, a top surface, a third end and a fourth end;
20 an elongated flexible connection element of a third length having a fifth end attached to a central portion of said second body such that said connection element extends perpendicularly thereto, and a sixth end terminating in a seventh releasable connector;

connection means for connecting said third end to said third cuff module, and for connecting said fourth end to said fourth cuff module; and

second releasable attachment means for releasably securing said seventh releasable connector to a particular seat of the at least one seat, wherein
5 when said third and fourth cuff modules are applied to the respective first and second ankles and said second releasable attachment means is engaged, the person's legs are thereby secured and immobilized.

9. The restraint apparatus of claim 8, wherein said second releasable
10 attachment means comprises:

an eighth releasable connector, attached to a third area of the particular seat, configured to releasably connect to said seventh releasable connector.

15 10. The restraint apparatus of claim 8, wherein the particular seat is one of: a seat in front of the seat in which the person is restrained, or a seat behind the seat in which the person is restrained.

11. The restraint apparatus of claim 9, wherein said seventh releasable
20 connector is one of a male seat-belt type connector or a female seat-belt type connector, and wherein said eighth releasable connector is the other of said male seat-belt type connector or said female seat-belt type connector.

12. The restraint apparatus of claim 8, further comprising a second tensioning device positioned on said connection element for changing said second length, such that when said second attachment means is engaged, said second tensioning device is selectively engaged to reduce said second length to better
5 secure and immobilize the person's legs.

13. The restraint apparatus of claim 8, wherein said connection means comprises a third releasable attachment means for releasably connecting said third cuff interconnect to said third and said fourth cuff modules.
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14. The restraint apparatus of claim 13, wherein said third cuff module comprises a first rigid loop disposed perpendicular thereto, wherein said fourth cuff module comprises a second rigid loop disposed perpendicular thereto, said first and second rigid loops being sized and configured to accept said third and fourth
15 ends, respectively, and wherein said third releasable attachment means comprises:

a first elongated loop positioned on said top surface at a predetermined distance from said third end;

a second elongated loop positioned next to said first elongated loop
20 on said top surface at said predetermined distance from said third end;

a first hole defined proximal to said third end, and a second hole, next to said first hole, defined proximal to said third end, said first and second holes being positioned and sized such that when said third end is threaded through said

first rigid loop in an upward direction, and then folded upon itself, said first and second holes are aligned with said first and second elongated loops, respectively, so that said first and second elongated loops pass through respective said first and second holes to thereby at least temporarily connect said third end of said second body to said first rigid loop;

a third elongated loop positioned on said top surface at said predetermined distance from said fourth end;

a fourth elongated loop positioned next to said third elongated loop on said top surface at said predetermined distance from said fourth end;

a third hole defined proximal to said fourth end, and a fourth hole, next to said third hole, defined proximal to said fourth end, said third and fourth holes being positioned and sized such that when said second end is threaded through said second rigid loop in an upward direction, and then folded upon itself, said third and fourth holes are aligned with said third and fourth elongated loops, respectively, so that said third and fourth elongated loops pass through said third and fourth holes, respectively, to thereby at least temporarily connect said fourth end of said second body to said second rigid loop;

a first enclosed channel positioned on said fifth end of said connection element, said first channel being oriented toward said first and second elongated loops;

a second enclosed channel positioned on said fifth end of said connection element, said second channel being oriented toward said third and fourth elongated loops;

an elongated third enclosed channel positioned along a substantial length of said connection element and having a proximal end oriented toward said first and said second channels, and a distal end oriented toward said seventh connector;

5 a flexible thin elongated connection line, sized and configured to readily pass through said first, second and third channels and through said first, second, third and fourth elongated loops when said first, second, third and fourth elongated loops are passed through said respective first, second, third, and fourth respective holes; said connection line having a seventh end and an eighth end; and

10 a tab connected to said eighth end of said connection line, wherein when said first, second, third and fourth elongated loops are passed through said respective first, second, third, and fourth respective holes and said seventh end of said connection line is threaded through said first, second and third channels and then through said first, second, third and fourth elongated loops, said third and
15 fourth cuff modules are securely connected to said third cuff interconnect, and wherein to quickly disconnect said third and fourth cuff modules from said third cuff interconnect, said tab is pulled until said seventh end of said connection line is threaded back out from said first, second, third and fourth elongated loops to enable instant removal of said first, second, third and fourth holes from said first, second,
20 third and fourth elongated loops, thereby quickly releasing said third and fourth cuff modules from said third cuff interconnect.

15. The restraint apparatus of claim 14, further comprising a fourth releasable attachment means for releasably connecting said tab to said connection element to prevent said tab from moving, such that said tab cannot be pulled without first disengaging said fourth releasable attachment means.

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16. The restraint apparatus of claim 15, wherein said fourth releasable attachment means comprises:

a first attachment element, positioned on said tab, comprising one of hook or loop attachment material, and

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a second attachment element, positioned on said connection element between said distal end of said third channel and said seventh connector, comprising the other of hook or loop attachment material, such that when said fourth releasable attachment means is engaged, said first attachment element is releasably connected to said second attachment element.

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17. The restraint apparatus of claim 14, further comprising: a first ring positioned and configured to reinforce said first hole, a second ring positioned and configured to reinforce said second hole, a third ring positioned and configured to reinforce said third hole, and a fourth ring positioned and configured to reinforce said fourth hole.

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18. The restraint apparatus of claim 14, wherein said connection line is selected from a group consisting of: a wire, a flexible plastic member, and a wire coated with a resilient material.

5 19. A restraint apparatus for restraining a person for an extended period of time and securing the person to at least one seat, comprising:

a first cuff module to be applied to a first ankle of the person

a second cuff module to be applied to a second ankle of the person;

10 a cuff interconnect having a flat flexible elongated body of a first length, a top surface, a first end and a second end;

an elongated flexible connection element of a second length having a third end attached to a central portion of said body such that said connection element extends perpendicularly thereto, and a fourth end terminating in a releasable connector;

15 connection means for connecting said first end to said first cuff module, and for connecting said second end to said second cuff module; and

releasable attachment means for releasably securing said releasable connector to a particular seat of the at least one seat, wherein when said first and second cuff modules are applied to the respective first and second ankles and said
20 releasable attachment means is engaged, the person's legs are thereby secured and immobilized.

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20. The restraint apparatus of claim 19, wherein said releasable attachment means comprises:

a second releasable connector attached to an area of the particular seat and configured to releasably connect to said releasable connector.

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21. The restraint apparatus of claim 19, wherein the particular seat is one of: a seat in front of the seat in which the person is restrained or a seat behind the seat in which the person is restrained.

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22. The restraint apparatus of claim 20, wherein said releasable connector is one of a male seat-belt type connector or a female seat-belt type connector, and wherein said second releasable connector is the other of said male seat-belt type connector or said female seat-belt type connector.

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23. The restraint apparatus of claim 19, further comprising a tensioning device positioned on said connection element for changing said first length, such that when said releasable attachment means is engaged, said tensioning device is selectively engaged to reduce said first length to better secure and immobilize the person's legs.

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24. The restraint apparatus of claim 19, wherein said connection means comprises a second releasable attachment means for releasably connecting said cuff interconnect to said first and said second cuff modules.

25. The restraint apparatus of claim 24, wherein said first cuff module comprises a first rigid loop disposed perpendicular thereto, wherein said second cuff module comprises a second rigid loop disposed perpendicular thereto, said first and second rigid loops being sized and configured to accept said first and second ends, respectively, and wherein said second releasable attachment means comprises:

a first elongated loop positioned on said top surface at a predetermined distance from said first end;

a second elongated loop positioned next to said first elongated loop on said top surface at said predetermined distance from said first end;

a first hole defined proximal to said first end, and a second hole, next to said first hole, defined proximal to said first end, said first and second holes being positioned and sized such that when said first end is threaded through said first rigid loop in an upward direction, and then folded upon itself, said first and second holes are aligned with said first and second elongated loops, respectively, so that said first and second elongated loops pass through respective said first and second holes to thereby at least temporarily connect said first end of said body to said first rigid loop;

a third elongated loop positioned on said top surface at said predetermined distance from said second end;

a fourth elongated loop positioned next to said third elongated loop on said top surface at said predetermined distance from said second end;

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a third hole defined proximal to said second end, and a fourth hole, next to said third hole, defined proximal to said second end, said third and fourth holes being positioned and sized such that when said second end is threaded through said second rigid loop in an upward direction, and then folded upon itself, said third and fourth holes are aligned with said third and fourth elongated loops, respectively, so that said third and fourth elongated loops pass through said third and fourth holes, respectively, to thereby at least temporarily connect said second end of said body to said second rigid loop;

a first enclosed channel positioned on said third end of said connection element, said first channel being oriented toward said first and second elongated loops;

a second enclosed channel positioned on said third end of said connection element, said second channel being oriented toward said third and fourth elongated loops;

an elongated third enclosed channel positioned along a substantial length of said connection element and having a proximal end oriented toward said first and said second channels, and a distal end oriented toward said releasable connector;

a flexible thin elongated connection line, sized and configured to readily pass through said first, second and third channels and through said first, second, third and fourth elongated loops when said first, second, third and fourth elongated loops are passed through said respective first, second, third, and fourth respective holes, said connection line having a fifth end and a sixth end; and

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a tab connected to said sixth end of said connection line, wherein when said first, second, third and fourth elongated loops are passed through said respective first, second, third, and fourth respective holes and said fifth end of said connection line is threaded through said first, second and third channels and through said first, second, third and fourth elongated loops, said first and second cuff modules are securely connected to said cuff interconnect, and wherein to quickly disconnect said first and second cuff modules from said cuff interconnect, said tab is pulled until said fifth end of said connection line is threaded back out from said first, second, third and fourth elongated loops to enable removal of said first, second, third and fourth holes from said first, second, third and fourth elongated loops, thereby quickly releasing said first and second cuff modules from said cuff interconnect.

26. The restraint apparatus of claim 25, further comprising a third releasable attachment means for releasably connecting said tab to said connection element to prevent said tab from moving, such that said tab cannot be pulled without first disengaging said third releasable attachment means.

27. The restraint apparatus of claim 26, wherein said third releasable attachment means comprises:

a first attachment element, positioned on said tab, comprising one of hook or loop attachment material, and

a second attachment element, positioned on said connection element between said distal end of said third channel and said releasable connector, comprising the other of hook or loop attachment material, such that when said third releasable attachment means is engaged, said first attachment element is
5 releasably connected to said second attachment element.

28. The restraint apparatus of claim 25, further comprising: a first ring positioned and configured to reinforce said first hole, a second ring positioned and configured to reinforce said second hole, a third ring positioned and configured to
10 reinforce said third hole, and a fourth ring positioned and configured to reinforce said fourth hole.

29. The restraint apparatus of claim 25, wherein said connection line is selected from a group consisting of: a wire, a flexible plastic member, and a wire
15 coated with a resilient material.

30. A method for restraining a person for an extended period of time, and for securing the person to at least one seat, comprising the steps of:

(a) applying a first cuff module to a first wrist of the person, said first
20 cuff module having a first cuff body and a first flexible member connected to said first cuff body terminating in a first releasable connector;

(b) applying a second cuff module to a second wrist of the person, said second cuff module having a second cuff body and a second flexible member

connected to said second cuff body and terminating in a second releasable connector; and

(c) releasably securing said first and said second releasable connectors to the at least one seat, such that the person is thereby restrained and
5 secured to the seat.

31. The method of claim 30, wherein said step (c) comprises the steps of:

(d) releasably connecting said first releasable connector to a third releasable connector attached to a first area of the at least one seat; and

10 (e) releasably connecting said second releasable connector to a fourth releasable connector attached to a second area of the at least one seat.

32. The method of claim 30, wherein said step (c) comprises the steps of:

(f) providing a first interconnect having a first flexible body of a first
15 length, a first end and an second end and having a fifth releasable connector attached to said first end and configured to releasably connect to said first releasable connector; and a sixth releasable connector attached to said second end and configured to releasably connect to said second releasable connector,

(g) positioning said first interconnect behind a seat of the at least one
20 seat on which the person is disposed; and

(h) releasably connecting said first and second releasable connectors to said respective fifth and sixth releasable connectors to thereby secure the person's wrists to the seat.

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33. The method of claim 32, further comprising the step of:

(i) after said step (h), engaging a first tensioning device, positioned on said first interconnect, to reduce said first length of said first interconnect to further secure the person's first and second wrists to the seat.

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34. The method of claim 30, further comprising the step of:

(j) providing a second interconnect comprising a first releasable connector that connects to said first and said second cuff modules, sized and configured to wrap around the person's midsection; and

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(k) wrapping said second interconnect around the person's midsection such that said first and said second cuff modules are secured to respective sides of the person's midsection.

35. The method of claim 30, further comprising the steps of:

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(l) applying a third cuff module to a first ankle of the person;

(m) applying a fourth cuff module to a second ankle of the person;

(n) providing a third cuff interconnect having a second flat flexible elongated body of a second length, a top surface, a third end and a fourth end;

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(o) connecting said third end to said third cuff module and said fourth end to said fourth cuff module;

(p) providing an elongated flexible connection element of a third length having a fifth end, and a sixth end terminating in a seventh releasable connector;

(q) attaching said connection element to a central portion of said second body such that said connection element extends perpendicularly thereto; and

(r) releasably securing said seventh releasable connector to one of the at least one seat to thereby secure and immobilize the person's legs.

36. The method of claim 35, further comprising the step of:

(s) after said step (r), engaging a second tensioning device, positioned on said first connection element, that changes said second length, to reduce said second length to better secure and immobilize the person's legs.

37. The method of claim 35, wherein said step (o) comprises the step of:

(t) releasably connecting said third cuff interconnect to said third and said fourth cuff modules.

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38. The method of claim 37, wherein said third cuff module further comprises a first rigid loop disposed perpendicular thereto, wherein said fourth cuff module further comprises a second rigid loop disposed perpendicular thereto, said first and second rigid loops being sized and configured to accept said third and fourth ends, respectively, wherein said third cuff interconnect further comprises: (1) a first elongated loop positioned on said top surface at a predetermined distance from said third end, (2) a second elongated loop positioned next to said first elongated loop on said top surface at said predetermined distance from said third

end, (3) a first hole defined proximal to said third end, (4) a second hole, next to said first hole, defined proximal to said third end, said first and second holes being positioned and sized such that when said third end is threaded through said first rigid loop in an upward direction, and then folded upon itself, said first and second

5 holes are aligned with said first and second elongated loops, respectively, so that said first and second elongated loops pass through respective said first and second holes, (5) a third elongated loop positioned on said top surface at said first predetermined distance from said fourth end, (6) a fourth elongated loop positioned next to said third elongated loop on said top surface at said predetermined

10 distance from said fourth end, (7) a third hole defined proximal to said fourth end, (8) a fourth hole, next to said third hole, defined proximal to said fourth end, said third and fourth holes being positioned and sized such that when said second end is threaded through said second rigid loop in an upward direction, and then folded upon itself, said third and fourth holes are aligned with said third and fourth

15 elongated loops, respectively, so that said third and fourth elongated loops pass through said third and fourth holes, respectively; wherein said fifth end of said connection element further comprises a first enclosed channel positioned on said fifth end of said connection element, said first channel being oriented toward said first and second elongated loops and a second enclosed channel positioned on

20 said fifth end of said connection element, said second channel being oriented toward said third and fourth elongated loops; wherein said connection element further comprises an elongated third enclosed channel, positioned along a substantial length thereof, and having a proximal end oriented toward said first and

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said second channels, and a distal end oriented toward said seventh connector; and wherein said step (t) comprises the steps of:

5 (u) providing a flexible thin elongated connection line, sized and configured to readily pass through said first, second and third channels and through said first, second, third and fourth elongated loops when said first, second, third and fourth elongated loops are passed through said respective first, second, third, and fourth respective holes; said connection line having a seventh end and an eighth end, and a tab connected to said eighth end;

10 (v) passing said first, second, third and fourth elongated loops through said respective first, second, third, and fourth respective holes; and

(w) threading said seventh end of said connection line through said first, second and third channels and through said first, second, third and fourth elongated loops to thereby securely connect said third and fourth cuff modules are to said third cuff interconnect.

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39. The method of claim 38, further comprising the step of:

(x) disconnecting said third and fourth cuff modules from said third cuff interconnect, by pulling said tab until said seventh end of said connection line is threaded back out from said first, second, third and fourth elongated loops to enable
20 removal of said first, second, third and fourth holes from said first, second, third and fourth elongated loops, thereby quickly releasing said third and fourth cuff modules from said third cuff interconnect.

40. The method of claim 38, further comprising the step of:

(y) releasably connecting said tab to said connection element to prevent said tab from moving, such that said step (x) cannot be performed until said step (y) is performed.

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